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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MASKULINSKI, MICHAEL C	

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,114	WAHL ET AL.	
	Examiner	Art Unit	
	Michael C. Maskulinski	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) *1-3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4,5,7 and 8* is/are rejected.

7)☒ Claim(s) *6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/14/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Non-Final Office Action

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 4-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 8, 12, and 13 of U.S. Patent No. 6,324,654 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following.

Referring to claim 4, in claims 1 and 12, U.S. Patent 6,324,654 B1 discloses a primary computer system comprising a writelog device (a first computer system including a writelog device); a secondary computer system for replicating the data, the secondary computer system comprising a mirror device onto which data is replicated (a second computer system including a mirror device onto which data is replicated); and a

network for interconnecting the primary computer system and the secondary computer system, wherein the primary and secondary mirror daemons communicate over the network so that the primary mirror daemon transfers the data from the writelog device over the network to the remote mirror daemon and the remote mirror daemon replicates the data on the mirror device (a network interconnecting the first computer system and the second computer system, wherein data is replicated from the writelog device to the mirror device). Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 12 of the U.S. Patent include all of the limitations in claim 4 of the instant application. With regard to the additional limitations in claims 1 and 12 of the U.S. Patent, which are not included in claim 4 of the instant application, the omission of these limitations in claim 4 of the instant application is an obvious expedient since the remaining limitations in claims 1 and 12 of the U.S. Patent perform the same function as the limitations in claim 4 of the instant application (*In re Karlson*, 136 USPQ 184 (CCPA 1963)).

Referring to claim 5, in claim 13, U.S. Patent 6,324,654 B1 discloses the writelog device comprises a disk drive device (wherein the writelog device comprises a disk drive device). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 13 of the U.S. Patent includes all of the limitations in claim 5 of the instant application. With regard to the additional limitations in claim 13 of the U.S. Patent, which are not included in claim 5 of the instant application, the omission of these limitations in claim 5 of the instant application is an obvious expedient since the remaining limitations in claim 13 of the U.S. Patent perform the

same function as the limitations in claim 5 of the instant application (*In re Karlson*, 136 USPQ 184 (CCPA 1963)).

Referring to claim 6, in claim 1, U.S. Patent 6,324,654 B1 discloses a writelog device including a cache memory and a dirty bit map disk drive device to which data can be written from the cache memory to avoid a memory overflow condition (wherein the writelog device comprises a cache memory and a dirty bit map disk drive device to which data can be written from the cache memory to avoid a memory overflow condition). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the U.S. Patent includes all of the limitations in claim 6 of the instant application. With regard to the additional limitations in claim 1 of the U.S. Patent, which are not included in claim 6 of the instant application, the omission of these limitations in claim 6 of the instant application is an obvious expedient since the remaining limitations in claim 1 of the U.S. Patent perform the same function as the limitations in claim 6 of the instant application (*In re Karlson*, 136 USPQ 184 (CCPA 1963)).

Referring to claim 7, in claim 15, U.S. Patent 6,324,654 B1 discloses the primary computer system further comprises a plurality of local data devices and a plurality of writelog devices, each of the plurality of local data devices operating together with one of the plurality of local data devices operating together with one of the plurality of writelog devices as one of a plurality of local data storage units (a plurality of local data devices and a plurality of writelog devices, each of the plurality of local data devices being configured with at least one of the plurality of writelog devices to form a plurality of

local data storage units). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 15 of the U.S. Patent includes all of the limitations in claim 7 of the instant application. With regard to the additional limitations in claim 15 of the U.S. Patent, which are not included in claim 7 of the instant application, the omission of these limitations in claim 7 of the instant application is an obvious expedient since the remaining limitations in claim 15 of the U.S. Patent perform the same function as the limitations in claim 6 of the instant application (*In re Karlson*, 136 USPQ 184 (CCPA 1963)).

Referring to claim 8, in claim 8, U.S. Patent 6,324,654 B1 discloses a primary computer system having a local data device to which device is written and further having a non-volatile writelog in which information representing updates to the data can be stored (writing data to a writelog device in a first computer system); the primary computer system being in communication with a secondary computer system (providing a network interconnecting the first computer system and the second computer system); transmitting entries representing updates from the writelog to the secondary computer system (replicating the data from the writelog device to a second computer system through the network). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 8 of the U.S. Patent includes all of the limitations in claim 8 of the instant application. With regard to the additional limitations in claim 8 of the U.S. Patent, which are not included in claim 8 of the instant application, the omission of these limitations in claim 8 of the instant application is an obvious expedient since the remaining limitations in claim 8 of the U.S. Patent perform the same

function as the limitations in claim 8 of the instant application (*In re Karlson*, 136 USPQ 184 (CCPA 1963)).

Claim Objections

3. Claim 6 is objected to because of the following informalities: in line 3, "conidtion" should be changed to "condition". Appropriate correction is required.

4. Claim 7 is objected to because of the following informalities: in line 2, "eachof" should be changed to "each of". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 8 recites the limitation "the second computer system" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 4, 5, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Ofek et al., U.S. Patent 6,052,797.

Referring to claim 4:

a. In column 9, lines 56-67, Ofek et al. disclose a partial list or table that each data storage system maintains as an indication of write or copy pending of both the primary data and the secondary data (a first computer system including a writelog device).

b. In column 7, lines 8-19, Ofek et al. disclose a secondary data storage system that provides data mirroring (a second computer system including a mirror device onto which data is replicated).

c. In Figure 1, Ofek et al. disclose a network interconnecting the first computer system and the second computer system. Further, in column 10, lines 13-17, Ofek et al. disclose that the service processors will periodically scan the index table for write pending indicator bits and invoke a copy task which copies the data from the primary data storage device to the secondary data storage device (wherein data is replicated from the writelog device to the mirror device).

Referring to claim 5, in column 6, lines 30-33, Ofek et al. disclose that the storage devices may include disk drives (wherein the writelog device comprises a disk drive device).

Referring to claim 7, in column 11, lines 15-24, Ofek et al. disclose that data storage in the primary data storage system is provided by an array of dual-port disk drives. Each of the disk drives is connected to each of the disk adapters by a respective fiber channel loop (a plurality of local data devices and a plurality of writelog devices, each of the plurality of local data devices being configured with at least one of the plurality of writelog devices to form a plurality of local data storage units).

Referring to claim 8:

a. In column 9, lines 56-67, Ofek et al. disclose a partial list or table that each data storage system maintains as an indication of write or copy pending of both the primary data and the secondary data (writing data to a writelog device in a first computer system).

b. In Figure 1, Ofek et al. disclose a network interconnecting the first computer system and the second computer system.

c. In column 7, lines 8-19, Ofek et al. disclose a secondary data storage system that provides data mirroring (replicating the data from the writelog device to a second computer system through the network).

Allowable Subject Matter

10. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or reasonable suggest that the writelog device comprises cache memory and a dirty bit map disk drive device to which data can be written from the cache memory to avoid a memory overflow condition.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art is related to overflow handling in a cache and mirroring data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Maskulinski whose telephone number is (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C Maskulinski
Examiner
Art Unit 2113